



2006 California Physical Fitness Test

**Report to the Governor
and the Legislature**

**Prepared by
California Department of Education**

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Introduction

In spring 2006, physical fitness testing was conducted in California public schools in grades five, seven, and nine, marking the tenth-year anniversary of this test. The test used for physical fitness testing is the *FITNESSGRAM*®, designated for this purpose by the State Board of Education (SBE). This report summarizes results of the 2006 test administration, and provides a summary comparison with the results from 2004 and 2005.

Background

Assembly Bill 265, signed into law in October 1995 (California *Education Code* Section 2, Chapter 6, Section 60800[a]), states in part:

During the month of March, April, or May, the governing board of each school district maintaining any of grades five, seven, and nine shall administer to each pupil in those grades the physical performance test designated by the State Board of Education.

In February 1996, the SBE designated the *FITNESSGRAM*® as the required physical performance test to be administered to California students.

Senate Bill 896, approved in 1998, further required the California Department of Education (CDE) to report results to the Governor and the Legislature. Section 60800 of the California *Education Code* was amended in January 2003, to allow the month of February to be added to the existing months of March, April, and May for the administration of the physical fitness test.

All students in the specified grades are expected to take the physical fitness test, regardless of whether or not they are in a physical education class or on a block schedule. Students who are physically unable to take the entire physical fitness test are to be given as much of the test as conditions permit. Students with individualized education program (IEP) or Section 504 plans are to be provided variations or accommodations as outlined in their plans.

Description of Test

The *FITNESSGRAM*® was developed by The Cooper Institute in Dallas, Texas and endorsed by the American Alliance for Health, Physical Education, Recreation, and Dance. The primary goal of the *FITNESSGRAM*® is to assist students in establishing physical activity as part of their daily lives. Because of this goal, *FITNESSGRAM*® provides a number of options for most of the fitness areas so that all students, including those with special needs, have the maximum opportunity to participate in the tests.

Physical fitness testing consists of three components: 1) aerobic capacity, 2) body composition, and 3) muscular strength, endurance, and flexibility. To ensure thorough measurements of all three



components, the *FITNESSGRAM*® is comprised of the following six major fitness areas with multiple performance task options for most areas:

Aerobic Capacity

- PACER
- One-Mile Run
- Walk Test (only for ages 13 or older)

Body Composition

- Skinfold Measurements
- Body Mass Index

Abdominal Strength and Endurance

- Curl-Up

Trunk Extensor Strength and Flexibility

- Trunk Lift

Upper Body Strength and Endurance

- Push-Up
- Modified Pull-Up
- Flexed-Arm Hang

Flexibility

- Back-Saver Sit and Reach
- Shoulder Stretch

To complete the *FITNESSGRAM*®, students are required to participate in the following:

- One of the options from aerobic capacity
- One of the options from body composition
- The curl-up test
- The trunk lift test
- One of the options from upper body strength and endurance
- One of the options from flexibility

The following is a brief description of the six fitness areas of the *FITNESSGRAM*® and the performance task options.

Aerobic Capacity

This is perhaps the most important indicator of physical fitness and assesses the capacity of the cardiorespiratory system by measuring endurance.

PACER (Progressive Aerobic Cardiovascular Endurance Run). This is a multi-stage fitness test set to a pace, which provides a valid and fun alternative to the customary distance run. The objective is to run as long as possible back and forth across a 15-meter or 20-meter distance at a specified pace that gets faster each minute.

One-Mile Run. The objective of this test is to walk and/or run a distance of one mile at the fastest pace possible.

Walk Test. The objective of this test is to walk a distance of one mile as quickly as possible while maintaining a constant walking pace for the entire distance. This test



is for students who are 13 years and older. The score is calculated using a formula that combines the walk time (in minutes and seconds) and the heart rate taken at the end of the walk.

Body Composition

Body composition results provide an estimate of the percent of a student's weight that is fat in contrast to the "fat-free" body mass that comes from muscles, bones, and organs.

Skinfold Measurements. Measurements of the thickness of the skinfold on the back of the upper right arm and the inside of the right calf are taken using a device called a skinfold caliper. A formula is used to calculate the percentage of body fat using these measurements.

Body Mass Index. This test provides an indication of a student's weight relative to his or her height. Height and weight measures are inserted into a formula to calculate the body mass index.

Abdominal Strength and Endurance

Abdominal strength and endurance are important in promoting good posture and correct pelvic alignment. Strength and endurance of the abdominal muscles are important in maintaining lower back health.

Curl-Up. The objective of this test is to complete as many curl-ups as possible up to a maximum of 75 at a specified pace.

Trunk Extensor Strength and Flexibility

This test is related to lower back health and vertebral alignment.

Trunk Lift. The objective of this test is to lift the upper body a maximum of 12 inches off the floor using the muscles of the back and to hold the position long enough to allow for the measurement of the lift distance.

Upper Body Strength and Endurance

This test measures the strength and endurance of the upper body. This is important to maintain functional health and to promote good posture. Three options are available to test for upper body strength and endurance.

Push-Up. The objective of this test is to complete as many push-ups as possible at a specified pace.

Modified Pull-Up. The objective of this test is to successfully complete as many modified pull-ups as possible. A student performs the test by lying on his or her back directly under a bar and grasping the bar to pull up until the chin reaches a specified level.



Flexed-Arm Hang. The objective of this test is to hang by the arms with the chin above a bar as long as possible.

Flexibility

This test measures joint flexibility, which is important to functional health.

Back-Saver Sit and Reach. The objective of this task is to assess the flexibility of the lower back and posterior thigh. Using a special box with measurements indicated on top of the box and beginning in a sitting position with one leg extended and the other leg bent, the student extends forward to reach as far as possible on top of the box, to a maximum of 12 inches. After measuring one side, the student switches the position of the legs and reaches again. The distance reached is measured for both sides of the body.

Shoulder Stretch. This is a simple test of upper body flexibility. The student is instructed to touch the fingertips together behind the back by reaching over both the right and left shoulder and under the elbow.

The Standards

The *FITNESSGRAM*® uses criterion-referenced standards to evaluate fitness performance. These standards were established by The Cooper Institute to represent a level of fitness that offers some degree of protection against diseases resulting from sedentary living. Findings from current research, expert opinions, and theoretical perspectives have been used as the basis for establishing the *FITNESSGRAM*® standards. In addition, the *FITNESSGRAM*® standards have been established according to gender and age.

Performance levels for each of the *FITNESSGRAM*® tests are classified as (1) “in the Healthy Fitness Zone (HFZ)” or (2) “needs improvement.” Appendix A provides the standards for the HFZ for each test. All students should strive to achieve a score within the HFZ for each test. It is possible that some students score above the HFZ. These scores are included with those of students who score within the HFZ. For the purpose of this report, scores are reported as meeting the standard (percent in HFZ).

Data Collection and Reporting

Statewide data collection in 2006 was done electronically. Most school districts submitted their data to CDE by the statutory deadline of June 30, 2006, through the Internet, by diskette or CD-ROM, or via e-mail.

Physical fitness test results for 2006 are reported by school, school district, county, and the state on the CDE Web site at <http://www.cde.ca.gov/ta/tg/pf>. These reports are available by gender and race or ethnicity. No individual student data is reported on the CDE Web site.



Participation in 2006 Testing

Tables 1 through 18, which begin on page 9, provide a comprehensive summary of the results from the spring 2006 physical fitness test. In 2006, the physical fitness test was taken by 97 percent of all fifth grade students, 95 percent of all seventh grade students, and 82 percent of all ninth grade students. A total of 1,389,280 California students took part in the physical fitness test. Tables 1 and 2 present the gender and racial or ethnic composition of the student population participating in physical fitness testing.

Results of 2006 Testing

Tables 3 through 8 contain the summary of the test results by fitness area for all students. Students in the HFZ are those that did attain the minimum level of fitness for that area. As summarized below,* these tables show that a notable percentage of students did meet minimum fitness levels for each area.

- Aerobic Capacity: 52-61 percent of students were in the HFZ across all grades
- Body Composition: 67-68 percent of students were in the HFZ across all grades
- Abdominal Strength: 81-83 percent of students were in the HFZ across all grades
- Trunk Extensor Strength: 86-89 percent of students were in the HFZ across all grades
- Upper Body Strength: 67-70 percent of students were in the HFZ across all grades
- Flexibility: 67-72 percent of students were in the HFZ across all grades

Tables 3 through 8 indicate that higher percentages of females than males were in the HFZ for aerobic capacity, body composition, trunk extensor strength, and flexibility for grades five and seven. However, in the remaining two fitness tests, abdominal strength and upper body strength, a higher percentage of males versus females achieved the HFZ for grades five and seven. For the ninth grade students, the percentage of females in the HFZ exceeded the percentage of males for body composition, trunk extensor strength, and flexibility. In the remaining tests for the ninth grade students, aerobic capacity, abdominal strength, and upper body strength, the percentage of males in the HFZ exceed the percentage of females.

Table 9 reports the results by the number and percentage of students achieving the HFZ in all six areas. Achievement of a fitness standard is based upon a test score contained in the HFZ for that fitness area. The fitness standard (HFZ) represents satisfactory achievement on the task for a fitness area (e.g., aerobic capacity, flexibility). The goal is for students to achieve the HFZ, or performance standard, for all six areas of the physical fitness test.

The information in this table reveals that most of the students tested did not meet all six fitness standards. In grade five, 25.6 percent of the students met all six fitness standards.

* The figures shown in the bullets have been rounded to the nearest percent.



This goal was attained by 29.6 percent of the students in grade seven and 27.4 percent of the students in grade nine. These results indicate that significant improvements in performance are needed before the desired fitness goal is achieved.

Although no ethnic subgroup exhibited high levels of fitness, subgroup results displayed in Tables 3 through 9 reveal some performance differences among the ethnicities. Asian/Asian American and White (not of Hispanic origin) subgroups had the highest percentages of students who achieved the HFZ for all six fitness areas. Hispanic/Latino and African/African American subgroups had the lowest percentages of students achieving this goal.

Comparison of 2004-06 Participation and Physical Fitness Test Results

Tables 10 through 18 display 2006 physical fitness tests results compared to those of 2005 and 2004. Tables 10 through 15 compare the percentages of students by gender and ethnicity in the HFZ by grade level and fitness area for the past three-year period. Table 16 summarizes the results from tables 10 through 15 for all six fitness areas. Table 17 shows the percentage of students achieving a HFZ by physical fitness area. Table 18 displays the breakdown of students by number of HFZ achieved. Results for 2006 physical fitness tests are reported for 1,389,280 students. This is an increase of 14,997 from the number of students tested in 2005, and an increase of 25,863 from the number who participated in 2004. These increases in participation may be attributed to:

- Continued efforts and improvements in communication about the physical fitness test requirement, administration guidelines, and reporting procedures
- Consistent use of the *FITNESSGRAM*®, which has resulted in greater familiarity with the *FITNESSGRAM*® administration procedures
- Ease and availability of multiple options for reporting the results to CDE

Table 16 shows three-year trends of growth in the percentages of students, at all three grade levels, who achieved the HFZ in all six physical fitness areas, with the largest three-year gains observed at grade nine. Across all grade levels, there was a three-year increase ranging from 0.5 to 1.1 percent, in the percentages of students who met all six fitness standards. Across all grade levels, there was a three-year trend of decreases, ranging from 0.3 to 2.1 percent, in the percentages of students who achieved zero of six fitness standards as shown in Table 18. In summary, the physical fitness test results indicate that there are small, but continuing positive changes from 2004 to 2006.



Summary and Implications for California Students

This is the seventh year that quality data about the fitness of California's youth has been reported. Full and complete public access to the summary data is available at <http://www.cde.ca.gov/ta/tg/pf/>. This site provides reports for the state and every county, school district, and school.

When comparing the overall results of this test in 2006 to the first results posted in 1999, you begin to see the slow progress in students achieving the HFZ in all six areas. In 1999, 19.6 percent of all fifth grade students were performing in the HFZ in all six areas. This percentage increased by six percent to 25.6 in 2006 for fifth grade students. For seventh grade students, this increase jumped by 7.6 percent with 22 percent of all seventh grade students achieving the HFZ in all six areas in 1999, compared to 29.6 percent of all seventh grade students achieving the HFZ in all six areas in 2006. Finally, the greatest increase during this seven-year period was achieved by ninth grade students. In 1999, 19.4 percent of all ninth grade students were performing in the HFZ in all six areas. This percentage increased by eight percent this year to 27.4 percent.

Although there is an increase in school district participation, this historical PFT data shows that the majority of California students at all three grade levels tested are not meeting the standards for the fitness areas of the *FITNESSGRAM*®. The most recent three years of data indicate there is only about a one percent increase in the percentage of students achieving the HFZ for all six fitness areas, indicating that there is much improvement needed to ensure high levels of fitness for all students in California. Both males and females and students from all ethnic or racial backgrounds could benefit from a greater emphasis on all areas of physical fitness, especially aerobic capacity, body composition, upper body strength, and flexibility.

School and district administrators, teachers, parents, and guardians can examine the data to get a more complete picture of the yearly fitness levels of their students and children. School districts and schools are encouraged to use the data they receive from this test to examine and make important changes to their physical education programs. Schools, parents and, guardians have the opportunity to work together to use this information to inform plans and strategies to improve the physical activity opportunities offered to students during and outside of the regular school day. Collaboration among educators and families is key to effectively increasing the health-related physical fitness of all California's students.

In his 2006 State of Education address, Jack O'Connell, State Superintendent for Public Instruction, stated, "Fostering good nutrition, health, and fitness in California's schools remains an ongoing commitment of mine, and with the recommendations of my advisory committee on Nutrition Implementation Strategies we will continue to find ways to improve our student's health."



2006 California Physical Fitness Test Results

Table 1: 2006 Participation in Physical Fitness Test by Gender

| Gender | Grade 5 | | Grade 7 | | Grade 9 | |
|-----------------------|---------|---------|---------|---------|---------|---------|
| | Number | Percent | Number | Percent | Number | Percent |
| Females | 231,666 | 48.9 | 227,679 | 48.9 | 220,391 | 48.9 |
| Males | 241,948 | 51.1 | 237,453 | 51.0 | 230,078 | 51.1 |
| No Gender Information | 19 | 0 | 27 | 0 | 19 | 0 |

Table 2: 2006 Participation in Physical Fitness Test by Race/Ethnicity

| Race/Ethnicity | Grade 5 | | Grade 7 | | Grade 9 | |
|--------------------------------|---------|---------|---------|---------|---------|---------|
| | Number | Percent | Number | Percent | Number | Percent |
| African/African American | 35,959 | 7.6 | 36,519 | 7.9 | 33,617 | 7.5 |
| American Indian/Alaskan Native | 3,731 | 0.8 | 3,573 | 0.8 | 3,639 | 0.8 |
| Asian/Asian American | 40,186 | 8.5 | 40,825 | 8.8 | 40,413 | 9.0 |
| Filipino/Filipino American | 12,640 | 2.7 | 12,793 | 2.8 | 12,955 | 2.9 |
| Hispanic/Latino | 233,296 | 49.3 | 223,790 | 48.1 | 207,333 | 46.0 |
| Pacific Islander | 2,974 | 0.6 | 3,103 | 0.7 | 3,024 | 0.7 |
| White – Not of Hispanic Origin | 135,321 | 28.6 | 138,199 | 29.7 | 143,255 | 31.8 |
| No Response | 9,526 | 2.0 | 6,357 | 1.4 | 6,252 | 1.3 |

NOTES: • Columns may not add up to 100 percent due to rounding.
• Where applicable, gender and ethnicity totals will not equal the “All Students” total since some students declined to state their gender or ethnicity.

**Table 3: 2006 Percentages of Students in the HFZ by Grade Level****AEROBIC CAPACITY**

| Demographic Subgroup | Grade 5 | | Grade 7 | | Grade 9 | |
|--------------------------------|---------------|----------------|---------------|----------------|---------------|----------------|
| | Number Tested | Percent in HFZ | Number Tested | Percent in HFZ | Number Tested | Percent in HFZ |
| All Students | 473,633 | 60.2 | 465,159 | 60.5 | 450,488 | 52.4 |
| Females | 231,666 | 62.4 | 227,679 | 62.5 | 220,391 | 49.4 |
| Males | 241,948 | 58.1 | 237,453 | 58.6 | 230,078 | 55.2 |
| American Indian/Alaskan Native | 3,731 | 53.6 | 3,573 | 53.5 | 3,639 | 47.0 |
| Asian | 40,186 | 65.5 | 40,825 | 72.9 | 40,413 | 64.0 |
| Pacific Islander | 2,974 | 56.1 | 3,103 | 55.0 | 3,024 | 45.5 |
| Filipino | 12,640 | 59.1 | 12,793 | 65.4 | 12,955 | 57.8 |
| Hispanic/Latino | 233,296 | 57.0 | 223,790 | 54.9 | 207,333 | 45.9 |
| African American | 35,959 | 54.4 | 36,519 | 51.3 | 33,617 | 44.3 |
| White | 135,321 | 66.3 | 138,199 | 68.3 | 143,255 | 60.1 |

Table 4: 2006 Percentages of Students in the HFZ by Grade Level**BODY COMPOSITION**

| Demographic Subgroup | Grade 5 | | Grade 7 | | Grade 9 | |
|--------------------------------|---------------|----------------|---------------|----------------|---------------|----------------|
| | Number Tested | Percent in HFZ | Number Tested | Percent in HFZ | Number Tested | Percent in HFZ |
| All Students | 473,633 | 67.4 | 465,159 | 67.0 | 450,488 | 68.0 |
| Females | 231,666 | 76.6 | 227,679 | 72.9 | 220,391 | 69.9 |
| Males | 241,948 | 58.6 | 237,453 | 61.3 | 230,078 | 66.1 |
| American Indian/Alaskan Native | 3,731 | 64.1 | 3,573 | 62.6 | 3,639 | 62.4 |
| Asian | 40,186 | 77.7 | 40,825 | 79.4 | 40,413 | 80.1 |
| Pacific Islander | 2,974 | 57.1 | 3,103 | 56.6 | 3,024 | 55.8 |
| Filipino | 12,640 | 70.7 | 12,793 | 72.5 | 12,955 | 73.2 |
| Hispanic/Latino | 233,296 | 60.5 | 223,790 | 59.6 | 207,333 | 60.9 |
| African American | 35,959 | 67.5 | 36,519 | 64.9 | 33,617 | 64.5 |
| White | 135,321 | 76.3 | 138,199 | 75.6 | 143,255 | 75.5 |

NOTES: • Columns may not add up to 100 percent due to rounding.
• Where applicable, gender and ethnicity totals will not equal the "All Students" total since some students declined to state their gender or ethnicity.

**Table 5: 2006 Percentages of Students in the HFZ by Grade Level****ABDOMINAL STRENGTH**

| Demographic Subgroup | Grade 5 | | Grade 7 | | Grade 9 | |
|--------------------------------|---------------|----------------|---------------|----------------|---------------|----------------|
| | Number Tested | Percent in HFZ | Number Tested | Percent in HFZ | Number Tested | Percent in HFZ |
| All Students | 473,633 | 80.6 | 465,159 | 83.1 | 450,488 | 82.6 |
| Females | 231,666 | 80.0 | 227,679 | 82.2 | 220,391 | 82.3 |
| Males | 241,948 | 81.3 | 237,453 | 83.9 | 230,078 | 82.9 |
| American Indian/Alaskan Native | 3,731 | 79.8 | 3,573 | 81.2 | 3,639 | 80.6 |
| Asian | 40,186 | 84.2 | 40,825 | 88.3 | 40,413 | 88.1 |
| Pacific Islander | 2,974 | 82.8 | 3,103 | 82.8 | 3,024 | 82.0 |
| Filipino | 12,640 | 83.2 | 12,793 | 86.9 | 12,955 | 86.1 |
| Hispanic/Latino | 233,296 | 77.6 | 223,790 | 80.1 | 207,333 | 79.1 |
| African American | 35,959 | 80.8 | 36,519 | 79.9 | 33,617 | 78.7 |
| White | 135,321 | 84.7 | 138,199 | 87.1 | 143,255 | 86.9 |

Table 6: 2006 Percentages of Students in the HFZ by Grade Level**TRUNK EXTENSOR STRENGTH**

| Demographic Subgroup | Grade 5 | | Grade 7 | | Grade 9 | |
|--------------------------------|---------------|----------------|---------------|----------------|---------------|----------------|
| | Number Tested | Percent in HFZ | Number Tested | Percent in HFZ | Number Tested | Percent in HFZ |
| All Students | 473,633 | 88.2 | 465,159 | 89.3 | 450,488 | 86.3 |
| Females | 231,666 | 88.9 | 227,679 | 90.1 | 220,391 | 87.3 |
| Males | 241,948 | 87.5 | 237,453 | 88.5 | 230,078 | 85.4 |
| American Indian/Alaskan Native | 3,731 | 89.0 | 3,573 | 89.5 | 3,639 | 84.5 |
| Asian | 40,186 | 89.0 | 40,825 | 91.0 | 40,413 | 88.1 |
| Pacific Islander | 2,974 | 87.1 | 3,103 | 89.6 | 3,024 | 83.7 |
| Filipino | 12,640 | 87.8 | 12,793 | 89.8 | 12,955 | 87.5 |
| Hispanic/Latino | 233,296 | 87.5 | 223,790 | 88.7 | 207,333 | 84.9 |
| African American | 35,959 | 86.1 | 36,519 | 86.1 | 33,617 | 83.0 |
| White | 135,321 | 90.0 | 138,199 | 90.8 | 143,255 | 88.7 |

NOTES: • Columns may not add up to 100 percent due to rounding.
• Where applicable, gender and ethnicity totals will not equal the "All Students" total since some students declined to state their gender or ethnicity.

**Table 7: 2006 Percentages of Students in the HFZ by Grade Level****UPPER BODY STRENGTH**

| Demographic Subgroup | Grade 5 | | Grade 7 | | Grade 9 | |
|--------------------------------|---------------|----------------|---------------|----------------|---------------|----------------|
| | Number Tested | Percent in HFZ | Number Tested | Percent in HFZ | Number Tested | Percent in HFZ |
| All Students | 473,633 | 67.1 | 465,159 | 68.7 | 450,488 | 69.5 |
| Females | 231,666 | 63.7 | 227,679 | 67.3 | 220,391 | 68.8 |
| Males | 241,948 | 70.2 | 237,453 | 70.0 | 230,078 | 70.1 |
| American Indian/Alaskan Native | 3,731 | 64.4 | 3,573 | 66.7 | 3,639 | 66.2 |
| Asian | 40,186 | 74.0 | 40,825 | 78.4 | 40,413 | 78.5 |
| Pacific Islander | 2,974 | 69.2 | 3,103 | 69.2 | 3,024 | 70.6 |
| Filipino | 12,640 | 73.0 | 12,793 | 78.0 | 12,955 | 77.6 |
| Hispanic/Latino | 233,296 | 61.7 | 223,790 | 63.4 | 207,333 | 64.3 |
| African American | 35,959 | 70.6 | 36,519 | 68.3 | 33,617 | 67.6 |
| White | 135,321 | 72.9 | 138,199 | 73.8 | 143,255 | 74.3 |

Table 8: 2006 Percentages of Students in the HFZ by Grade Level**FLEXIBILITY**

| Demographic Subgroup | Grade 5 | | Grade 7 | | Grade 9 | |
|--------------------------------|---------------|----------------|---------------|----------------|---------------|----------------|
| | Number Tested | Percent in HFZ | Number Tested | Percent in HFZ | Number Tested | Percent in HFZ |
| All Students | 473,633 | 66.6 | 465,159 | 72.4 | 450,488 | 70.3 |
| Females | 231,666 | 70.1 | 227,679 | 75.7 | 220,391 | 70.9 |
| Males | 241,948 | 63.2 | 237,453 | 69.3 | 230,078 | 69.7 |
| American Indian/Alaskan Native | 3,731 | 65.7 | 3,573 | 71.7 | 3,639 | 67.4 |
| Asian | 40,186 | 75.1 | 40,825 | 79.1 | 40,413 | 76.1 |
| Pacific Islander | 2,974 | 66.7 | 3,103 | 71.5 | 3,024 | 70.1 |
| Filipino | 12,640 | 73.0 | 12,793 | 78.3 | 12,955 | 75.3 |
| Hispanic/Latino | 233,296 | 62.2 | 223,790 | 69.9 | 207,333 | 67.4 |
| African American | 35,959 | 66.7 | 36,519 | 69.0 | 33,617 | 67.5 |
| White | 135,321 | 71.0 | 138,199 | 75.1 | 143,255 | 73.0 |

NOTES: • Columns may not add up to 100 percent due to rounding.
 • Where applicable, gender and ethnicity totals will not equal the "All Students" total since some students declined to state their gender or ethnicity.

**Table 9: 2006 Percentages of Students Achieving the HFZ for All Six Fitness Areas by Grade Level**

| Demographic Subgroup | Grade 5 | | | Grade 7 | | | Grade 9 | | |
|------------------------------------|---------------|--|---|---------------|--|---|---------------|--|---|
| | Number Tested | Number Achieving HFZ for All Six Areas | Percent Achieving HFZ for All Six Areas | Number Tested | Number Achieving HFZ for All Six Areas | Percent Achieving HFZ for All Six Areas | Number Tested | Number Achieving HFZ for All Six Areas | Percent Achieving HFZ for All Six Areas |
| All Students | 473,633 | 121,314 | 25.6 | 465,159 | 137,591 | 29.6 | 450,488 | 123,213 | 27.4 |
| Females | 231,666 | 64,856 | 28.0 | 227,679 | 72,111 | 31.7 | 220,391 | 58,077 | 26.4 |
| Males | 241,948 | 56,458 | 23.3 | 237,453 | 65,480 | 27.6 | 230,078 | 65,136 | 28.3 |
| American Indian/ Alaskan Native | 3,731 | 878 | 23.5 | 3,573 | 930 | 26.0 | 3,639 | 847 | 23.3 |
| Asian | 40,186 | 13,320 | 33.5 | 40,825 | 16,691 | 41.3 | 40,413 | 15,032 | 37.7 |
| Pacific Islander | 2,974 | 677 | 23.9 | 3,103 | 784 | 27.6 | 3,024 | 709 | 25.2 |
| Filipino | 12,640 | 3,562 | 28.2 | 12,793 | 4,571 | 35.7 | 12,955 | 4,167 | 32.2 |
| Hispanic/Latino | 233,296 | 45,742 | 19.6 | 223,790 | 51,336 | 22.9 | 207,333 | 43,767 | 21.1 |
| African American | 35,959 | 8,364 | 23.3 | 36,519 | 8,592 | 23.5 | 33,617 | 7,282 | 21.7 |
| White | 135,321 | 46,415 | 34.3 | 138,199 | 52,791 | 38.2 | 143,255 | 49,673 | 34.7 |

NOTES: • Columns may not add up to 100 percent due to rounding.
• Where applicable, gender and ethnicity totals will not equal the “All Students” total since some students declined to state their gender or ethnicity.



Table 10: 2004-06 Comparison of Percentages of Students in the HFZ by Grade Level
AEROBIC CAPACITY

| Demographic Subgroup | Grade 5 | | | Grade 7 | | | Grade 9 | | |
|--------------------------------|---------|------|------|---------|------|------|---------|------|------|
| | 2004 | 2005 | 2006 | 2004 | 2005 | 2006 | 2004 | 2005 | 2006 |
| All Students | 58.5 | 58.4 | 60.2 | 59.2 | 59.8 | 60.5 | 49.7 | 50.9 | 52.4 |
| Females | 59.8 | 60.2 | 62.4 | 61.2 | 61.7 | 62.5 | 46.1 | 47.9 | 49.4 |
| Males | 57.3 | 56.8 | 58.1 | 57.2 | 57.9 | 58.6 | 53.2 | 53.9 | 55.2 |
| American Indian/Alaskan Native | 53.9 | 50.8 | 53.6 | 52.8 | 53.9 | 53.5 | 46.1 | 45.2 | 47.0 |
| Asian | 62.5 | 63.7 | 65.5 | 69.0 | 71.4 | 72.9 | 59.7 | 62.9 | 64.0 |
| Pacific Islander | 56.2 | 55.8 | 56.1 | 59.8 | 57.6 | 55.0 | 50.1 | 52.2 | 45.5 |
| Filipino | 57.1 | 56.4 | 59.1 | 64.2 | 60.3 | 65.4 | 54.0 | 53.7 | 57.8 |
| Hispanic/Latino | 55.1 | 55.3 | 57.0 | 54.5 | 54.4 | 54.9 | 42.9 | 44.1 | 45.9 |
| African American | 51.6 | 51.6 | 54.4 | 48.5 | 50.4 | 51.3 | 40.7 | 41.6 | 44.3 |
| White | 64.8 | 64.6 | 66.3 | 65.6 | 67.1 | 68.3 | 57.6 | 59.0 | 60.1 |

Table 11: 2004-06 Comparison of Percentages of Students in the HFZ by Grade Level
BODY COMPOSITION

| Demographic Subgroup | Grade 5 | | | Grade 7 | | | Grade 9 | | |
|--------------------------------|---------|------|------|---------|------|------|---------|------|------|
| | 2004 | 2005 | 2006 | 2004 | 2005 | 2006 | 2004 | 2005 | 2006 |
| All Students | 67.5 | 66.4 | 67.4 | 67.1 | 66.7 | 67.0 | 67.1 | 66.9 | 68.0 |
| Females | 76.4 | 75.4 | 76.6 | 73.1 | 72.7 | 72.9 | 69.3 | 69.1 | 69.9 |
| Males | 58.9 | 57.8 | 58.6 | 61.3 | 60.9 | 61.3 | 65.0 | 64.8 | 66.1 |
| American Indian/Alaskan Native | 64.9 | 62.8 | 64.1 | 62.9 | 63.9 | 62.6 | 61.6 | 63.4 | 62.4 |
| Asian | 77.2 | 77.7 | 77.7 | 79.2 | 79.6 | 79.4 | 79.5 | 80.5 | 80.1 |
| Pacific Islander | 59.1 | 59.7 | 57.1 | 60.3 | 60.5 | 56.6 | 60.2 | 60.0 | 55.8 |
| Filipino | 70.5 | 68.8 | 70.7 | 72.5 | 71.9 | 72.5 | 73.1 | 71.9 | 73.2 |
| Hispanic/Latino | 60.4 | 59.2 | 60.5 | 59.8 | 58.9 | 59.6 | 59.6 | 59.3 | 60.9 |
| African American | 67.6 | 66.8 | 67.5 | 63.7 | 65.4 | 64.9 | 61.0 | 61.7 | 64.5 |
| White | 76.0 | 75.0 | 76.3 | 74.7 | 74.6 | 75.6 | 74.7 | 74.4 | 75.5 |

NOTES: • Columns may not add up to 100 percent due to rounding.
 • Where applicable, gender and ethnicity totals will not equal the "All Students" total since some students declined to state their gender or ethnicity.



Table 12: 2004-06 Comparison of Percentages of Students in the HFZ by Grade Level
ABDOMINAL STRENGTH

| Demographic Subgroup | Grade 5 | | | Grade 7 | | | Grade 9 | | |
|--------------------------------|---------|------|------|---------|------|------|---------|------|------|
| | 2004 | 2005 | 2006 | 2004 | 2005 | 2006 | 2004 | 2005 | 2006 |
| All Students | 80.8 | 80.2 | 80.6 | 83.5 | 83.7 | 83.1 | 80.7 | 81.3 | 82.6 |
| Females | 80.2 | 79.7 | 80.0 | 83.0 | 83.1 | 82.2 | 80.8 | 81.1 | 82.3 |
| Males | 81.4 | 80.7 | 81.3 | 84.0 | 84.3 | 83.9 | 80.6 | 81.4 | 82.9 |
| American Indian/Alaskan Native | 80.3 | 78.7 | 79.8 | 82.0 | 82.3 | 81.2 | 78.8 | 80.4 | 80.6 |
| Asian | 84.0 | 83.4 | 84.2 | 88.6 | 89.0 | 88.3 | 87.3 | 87.5 | 88.1 |
| Pacific Islander | 83.0 | 82.5 | 82.8 | 85.9 | 85.0 | 82.8 | 82.9 | 84.3 | 82.0 |
| Filipino | 83.4 | 81.8 | 83.2 | 87.9 | 86.1 | 86.9 | 85.6 | 85.7 | 86.1 |
| Hispanic/Latino | 77.1 | 76.8 | 77.6 | 80.1 | 80.5 | 80.1 | 75.2 | 76.9 | 79.1 |
| African American | 80.4 | 80.0 | 80.8 | 78.7 | 79.4 | 79.9 | 74.0 | 74.2 | 78.7 |
| White | 85.5 | 84.7 | 84.7 | 87.8 | 87.8 | 87.1 | 87.0 | 86.8 | 86.9 |

Table 13: 2004-06 Comparison of Percentages of Students in the HFZ by Grade Level
TRUNK EXTENSOR STRENGTH

| Demographic Subgroup | Grade 5 | | | Grade 7 | | | Grade 9 | | |
|--------------------------------|---------|------|------|---------|------|------|---------|------|------|
| | 2004 | 2005 | 2006 | 2004 | 2005 | 2006 | 2004 | 2005 | 2006 |
| All Students | 87.0 | 87.4 | 88.2 | 88.8 | 88.5 | 89.3 | 83.0 | 84.3 | 86.3 |
| Females | 87.7 | 88.2 | 88.9 | 89.6 | 89.4 | 90.1 | 84.1 | 85.5 | 87.3 |
| Males | 86.4 | 86.7 | 87.5 | 88.1 | 87.7 | 88.5 | 81.9 | 83.2 | 85.4 |
| American Indian/Alaskan Native | 87.5 | 87.1 | 89.0 | 89.0 | 88.7 | 89.5 | 82.8 | 84.1 | 84.5 |
| Asian | 88.1 | 88.1 | 89.0 | 90.9 | 90.1 | 91.0 | 87.5 | 87.6 | 88.1 |
| Pacific Islander | 88.6 | 88.1 | 87.1 | 89.5 | 88.6 | 89.6 | 83.7 | 86.1 | 83.7 |
| Filipino | 86.7 | 87.0 | 87.8 | 90.5 | 89.8 | 89.8 | 87.5 | 87.8 | 87.5 |
| Hispanic/Latino | 85.8 | 86.6 | 87.5 | 87.4 | 87.4 | 88.7 | 79.0 | 81.6 | 84.9 |
| African American | 83.2 | 84.7 | 86.1 | 83.7 | 84.7 | 86.1 | 77.0 | 78.7 | 83.0 |
| White | 89.6 | 89.5 | 90.0 | 91.6 | 90.7 | 90.8 | 87.9 | 88.0 | 88.7 |

NOTES: • Columns may not add up to 100 percent due to rounding.
 • Where applicable, gender and ethnicity totals will not equal the "All Students" total since some students declined to state their gender or ethnicity.



Table 14: 2004-06 Comparison of Percentages of Students in the HFZ by Grade Level
UPPER BODY STRENGTH

| Demographic Subgroup | Grade 5 | | | Grade 7 | | | Grade 9 | | |
|--------------------------------|---------|------|------|---------|------|------|---------|------|------|
| | 2004 | 2005 | 2006 | 2004 | 2005 | 2006 | 2004 | 2005 | 2006 |
| All Students | 66.5 | 66.6 | 67.1 | 67.7 | 68.5 | 68.7 | 67.5 | 68.7 | 69.5 |
| Females | 63.0 | 63.2 | 63.7 | 66.1 | 66.8 | 67.3 | 66.2 | 67.8 | 68.8 |
| Males | 69.9 | 69.9 | 70.2 | 69.2 | 70.2 | 70.0 | 68.7 | 69.6 | 70.1 |
| American Indian/Alaskan Native | 64.5 | 64.9 | 64.4 | 65.0 | 66.7 | 66.7 | 64.2 | 65.5 | 66.2 |
| Asian | 71.5 | 72.5 | 74.0 | 76.2 | 78.3 | 78.4 | 77.4 | 78.0 | 78.5 |
| Pacific Islander | 69.9 | 72.2 | 69.2 | 71.7 | 72.6 | 69.2 | 70.7 | 71.5 | 70.6 |
| Filipino | 71.3 | 70.6 | 73.0 | 76.1 | 75.7 | 78.0 | 76.4 | 76.0 | 77.6 |
| Hispanic/Latino | 61.0 | 61.2 | 61.7 | 62.4 | 63.0 | 63.4 | 61.3 | 63.3 | 64.3 |
| African American | 69.6 | 70.1 | 70.6 | 65.9 | 67.6 | 68.3 | 63.1 | 64.5 | 67.6 |
| White | 72.5 | 72.4 | 72.9 | 72.7 | 73.6 | 73.8 | 73.0 | 73.9 | 74.3 |

Table 15: 2004-06 Comparison of Percentages of Students in the HFZ by Grade Level
FLEXIBILITY

| Demographic Subgroup | Grade 5 | | | Grade 7 | | | Grade 9 | | |
|--------------------------------|---------|------|------|---------|------|------|---------|------|------|
| | 2004 | 2005 | 2006 | 2004 | 2005 | 2006 | 2004 | 2005 | 2006 |
| All Students | 66.4 | 65.7 | 66.6 | 72.3 | 71.5 | 72.4 | 69.1 | 69.3 | 70.3 |
| Females | 69.8 | 69.2 | 70.1 | 75.8 | 74.9 | 75.7 | 70.5 | 70.3 | 70.9 |
| Males | 63.2 | 62.3 | 63.2 | 69.0 | 68.2 | 69.3 | 67.9 | 68.4 | 69.7 |
| American Indian/Alaskan Native | 63.6 | 62.9 | 65.7 | 70.1 | 66.9 | 71.7 | 65.1 | 66.1 | 67.4 |
| Asian | 75.7 | 75.5 | 75.1 | 81.0 | 80.6 | 79.1 | 78.2 | 77.7 | 76.1 |
| Pacific Islander | 69.8 | 64.7 | 66.7 | 76.3 | 70.6 | 71.5 | 73.3 | 69.5 | 70.1 |
| Filipino | 72.9 | 72.6 | 73.0 | 79.7 | 78.6 | 78.3 | 76.2 | 76.2 | 75.3 |
| Hispanic/Latino | 61.6 | 61.4 | 62.2 | 68.7 | 68.6 | 69.9 | 64.2 | 65.7 | 67.4 |
| African American | 66.3 | 65.6 | 66.7 | 67.8 | 66.9 | 69.0 | 63.1 | 63.9 | 67.5 |
| White | 70.9 | 69.7 | 71.0 | 75.8 | 73.8 | 75.1 | 74.1 | 72.7 | 73.0 |

NOTES: • Columns may not add up to 100 percent due to rounding.
 • Where applicable, gender and ethnicity totals will not equal the "All Students" total since some students declined to state their gender or ethnicity.

**Table 16: 2004-06 Comparison of Percentages of Students Achieving the HFZ for All Six Fitness Areas by Grade Level**

| Demographic Subgroup | Grade 5 | | | Grade 7 | | | Grade 9 | | |
|--------------------------------|---------|------|------|---------|------|------|---------|------|------|
| | 2004 | 2005 | 2006 | 2004 | 2005 | 2006 | 2004 | 2005 | 2006 |
| All Students | 24.8 | 24.5 | 25.6 | 29.1 | 28.8 | 29.6 | 26.3 | 26.7 | 27.4 |
| Females | 26.7 | 26.7 | 28.0 | 31.3 | 30.9 | 31.7 | 25.3 | 25.8 | 26.4 |
| Males | 22.9 | 22.3 | 23.3 | 27.0 | 26.8 | 27.6 | 27.2 | 27.5 | 28.3 |
| American Indian/Alaskan Native | 22.7 | 20.8 | 23.5 | 24.8 | 24.3 | 26.0 | 23.5 | 22.8 | 23.3 |
| Asian | 30.9 | 32.3 | 33.5 | 40.4 | 41.6 | 41.3 | 35.9 | 37.9 | 37.7 |
| Pacific Islander | 25.9 | 22.0 | 23.9 | 30.2 | 26.7 | 27.6 | 28.1 | 25.1 | 25.2 |
| Filipino | 27.1 | 26.4 | 28.2 | 35.5 | 33.2 | 35.7 | 30.6 | 30.5 | 32.2 |
| Hispanic/Latino | 18.5 | 18.6 | 19.6 | 22.6 | 22.3 | 22.9 | 19.7 | 20.2 | 21.1 |
| African American | 21.7 | 21.6 | 23.3 | 22.3 | 22.5 | 23.5 | 19.2 | 19.6 | 21.7 |
| White | 33.4 | 32.6 | 34.3 | 36.6 | 36.2 | 38.2 | 33.4 | 33.7 | 34.7 |

NOTES: • Columns may not add up to 100 percent due to rounding.
• Where applicable, gender and ethnicity totals will not equal the “All Students” total since some students declined to state their gender or ethnicity.

**Table 17: 2004-06 Comparison of Percentages of All Students in the Healthy Fitness Zone (HFZ) by Fitness Area**

| Physical Fitness Area | Grade 5 | | | Grade 7 | | | Grade 9 | | |
|-------------------------|---------|------|------|---------|------|------|---------|------|------|
| | 2004 | 2005 | 2006 | 2004 | 2005 | 2006 | 2004 | 2005 | 2006 |
| Aerobic Capacity | 58.5 | 58.4 | 60.2 | 59.2 | 59.8 | 60.5 | 49.7 | 50.9 | 52.4 |
| Body Composition | 67.5 | 66.4 | 67.4 | 67.1 | 66.7 | 67.0 | 67.1 | 66.9 | 68.0 |
| Abdominal Strength | 80.8 | 80.2 | 80.6 | 83.5 | 83.7 | 83.1 | 80.7 | 81.3 | 82.6 |
| Trunk Extensor Strength | 87.0 | 87.4 | 88.2 | 88.8 | 88.5 | 89.3 | 83.0 | 84.3 | 86.3 |
| Upper Body Strength | 66.5 | 66.6 | 67.1 | 67.7 | 68.5 | 68.7 | 67.5 | 68.7 | 69.5 |
| Flexibility | 66.4 | 65.7 | 66.6 | 72.3 | 71.5 | 72.4 | 69.1 | 69.3 | 70.3 |

Table 18: 2004-06 Comparison of Percentages of All Students by Number of Fitness Standards Achieved

| Number of Fitness Standards Achieved | Grade 5 | | | Grade 7 | | | Grade 9 | | |
|--------------------------------------|---------|------|------|---------|------|------|---------|------|------|
| | 2004 | 2005 | 2006 | 2004 | 2005 | 2006 | 2004 | 2005 | 2006 |
| 6 of 6 | 24.8 | 24.5 | 25.6 | 29.1 | 28.8 | 29.6 | 26.3 | 26.7 | 27.4 |
| 5 of 6 | 26.2 | 26.3 | 26.4 | 26.3 | 26.6 | 26.1 | 25.9 | 26.3 | 26.4 |
| 4 of 6 | 20.9 | 20.7 | 20.5 | 19.2 | 19.3 | 19.2 | 19.0 | 19.2 | 19.4 |
| 3 of 6 | 14.4 | 14.4 | 14.0 | 12.9 | 12.7 | 12.9 | 12.3 | 12.1 | 12.7 |
| 2 of 6 | 8.2 | 8.4 | 8.2 | 7.1 | 7.2 | 7.3 | 6.9 | 6.6 | 6.8 |
| 1 of 6 | 3.7 | 3.8 | 3.7 | 3.1 | 3.1 | 3.1 | 3.6 | 3.2 | 3.3 |
| 0 of 6 | 1.8 | 2.0 | 1.5 | 2.3 | 2.3 | 1.9 | 6.1 | 5.8 | 4.0 |

NOTES: • Columns may not add up to 100 percent due to rounding.
• Where applicable, gender and ethnicity totals will not equal the "All Students" total since some students declined to state their gender or ethnicity.



Appendix A

FITNESSGRAM®

Standards for Healthy Fitness Zone*

The *FITNESSGRAM®* uses criterion-referenced standards to evaluate fitness performance. These standards, established by The Cooper Institute of Dallas, Texas, represent levels of fitness that offer protection against the diseases that result from sedentary living. (Rev. 2006)

FEMALES

| Age | One Mile Run min:sec | 20m PACER # laps | Walk Test VO ₂ max** ml/kg/min | Skinfold Measurement percent fat | Body Mass Index | Curl-Up # completed |
|-----|---|--|---|--|-------------------------------------|---|
| 5 | Completion of distance. Time standards not recommended. | Participate in run. Lap count standards not recommended. | VO ₂ max standards not available. | 17 – 32 | 16.2 – 21.0 | 2 – 10 |
| 6 | | | | 17 – 32 | 16.2 – 21.0 | 2 – 10 |
| 7 | | | | 17 – 32 | 16.2 – 22.0 | 4 – 14 |
| 8 | | | | 17 – 32 | 16.2 – 22.0 | 6 – 20 |
| 9 | | | | 13 – 32 | 13.5 – 23.0 | 9 – 22 |
| 10 | 12:30 – 9:30 | 7 – 41 | 36 – 44 | 13 – 32 | 13.7 – 23.5 | 12 – 26 |
| 11 | 12:00 – 9:00 | 15 – 41 | | 13 – 32 | 14.0 – 24.0 | 15 – 29 |
| 12 | 12:00 – 9:00 | 15 – 41 | | 13 – 32 | 14.5 – 24.5 | 18 – 32 |
| 13 | 11:30 – 9:00 | 23 – 51 | | 13 – 32 | 14.9 – 24.5 | 18 – 32 |
| 14 | 11:00 – 8:30 | 23 – 51 | | 13 – 32 | 15.4 – 25.0 | 18 – 32 |
| 15 | 10:30 – 8:00 | 23 – 51 | 35 – 43 | 13 – 32 | 16.0 – 25.0 | 18 – 35 |
| 16 | 10:00 – 8:00 | 32 – 61 | 35 – 43 | 13 – 32 | 16.4 – 25.0 | 18 – 35 |
| 17 | 10:00 – 8:00 | 41 – 61 | 35 – 43 | 13 – 32 | 16.8 – 26.0 | 18 – 35 |
| 17+ | 10:00 – 8:00 | 41 – 72 | 35 – 43 | 13 – 32 | 17.2 – 27.3 | 18 – 35 |
| Age | Trunk Lift inches | Push-Up # completed | Modified Pull-Up # completed | Flexed-Arm Hang seconds | Back-Saver Sit & Reach inches | Shoulder Stretch |
| 5 | 6 – 12 | 3 – 8 | 2 – 7 | 2 – 8 | 9 | Touching fingertips together behind the back on <u>both</u> the right and left sides. |
| 6 | 6 – 12 | 3 – 8 | 2 – 7 | 2 – 8 | 9 | |
| 7 | 6 – 12 | 4 – 10 | 3 – 9 | 3 – 8 | 9 | |
| 8 | 6 – 12 | 5 – 13 | 4 – 11 | 3 – 10 | 9 | |
| 9 | 6 – 12 | 6 – 15 | 4 – 11 | 4 – 10 | 9 | |
| 10 | 9 – 12 | 7 – 15 | 4 – 13 | 4 – 10 | 9 | |
| 11 | 9 – 12 | 7 – 15 | 4 – 13 | 6 – 12 | 10 | |
| 12 | 9 – 12 | 7 – 15 | 4 – 13 | 7 – 12 | 10 | |
| 13 | 9 – 12 | 7 – 15 | 4 – 13 | 8 – 12 | 10 | |
| 14 | 9 – 12 | 7 – 15 | 4 – 13 | 8 – 12 | 10 | |
| 15 | 9 – 12 | 7 – 15 | 4 – 13 | 8 – 12 | 12 | |
| 16 | 9 – 12 | 7 – 15 | 4 – 13 | 8 – 12 | 12 | |
| 17 | 9 – 12 | 7 – 15 | 4 – 13 | 8 – 12 | 12 | |
| 17+ | 9 – 12 | 7 – 15 | 4 – 13 | 8 – 12 | 12 | |

*Number on the left is lower end of the HFZ; number on right is the upper end of the HFZ.

**Aerobic capacity (VO₂max) reflects the maximum rate that oxygen can be taken up and utilized by the body during exercise. Aerobic capacity is estimated by inserting age, gender, weight, mile walk time, and heart rate at the end of the walk into the Rockport Fitness Walking Test equation.



Appendix A

FITNESSGRAM®

Standards for Healthy Fitness Zone*

The *FITNESSGRAM*® uses criterion-referenced standards to evaluate fitness performance. These standards, established by The Cooper Institute of Dallas, Texas, represent levels of fitness that offer protection against the diseases that result from sedentary living. (Rev. 2006)

MALES

| Age | One Mile Run min:sec | 20m PACER # laps | Walk Test VO ₂ max** ml/kg/min | Skinfold Measurement percent fat | Body Mass Index | Curl-Up # completed |
|-----|---|--|---|--|-------------------------------------|---|
| 5 | Completion of distance. Time standards not recommended. | Participate in run. Lap count standards not recommended. | VO ₂ max standards not available. | 10 – 25 | 14.7 – 20.0 | 2 – 10 |
| 6 | | | | 10 – 25 | 14.7 – 20.0 | 2 – 10 |
| 7 | | | | 10 – 25 | 14.9 – 20.0 | 4 – 14 |
| 8 | | | | 10 – 25 | 15.1 – 20.0 | 6 – 20 |
| 9 | | | | 7 – 25 | 13.7 – 20.0 | 9 – 24 |
| 10 | 11:30 – 9:00 | 23 – 61 | 42 – 52 | 7 – 25 | 14.0 – 21.0 | 12 – 24 |
| 11 | 11:00 – 8:30 | 23 – 72 | | 7 – 25 | 14.3 – 21.0 | 15 – 28 |
| 12 | 10:30 – 8:00 | 32 – 72 | | 7 – 25 | 14.6 – 22.0 | 18 – 36 |
| 13 | 10:00 – 7:30 | 41 – 83 | | 7 – 25 | 15.1 – 23.0 | 21 – 40 |
| 14 | 9:30 – 7:00 | 41 – 83 | | 7 – 25 | 15.6 – 24.5 | 24 – 45 |
| 15 | 9:00 – 7:00 | 51 – 94 | 42 – 52 | 7 – 25 | 16.2 – 25.0 | 24 – 47 |
| 16 | 8:30 – 7:00 | 61 – 94 | 42 – 52 | 7 – 25 | 16.6 – 26.5 | 24 – 47 |
| 17 | 8:30 – 7:00 | 61 – 106 | 42 – 52 | 7 – 25 | 17.3 – 27.0 | 24 – 47 |
| 17+ | 8:30 – 7:00 | 72 – 106 | 42 – 52 | 7 – 25 | 17.8 – 27.8 | 24 – 47 |
| Age | Trunk Lift inches | Push-Up # completed | Modified Pull-Up # completed | Flexed-Arm Hang seconds | Back-Saver Sit & Reach inches | Shoulder Stretch |
| 5 | 6 – 12 | 3 – 8 | 2 – 7 | 2 – 8 | 8 | Touching fingertips together behind the back on <u>both</u> the right and left sides. |
| 6 | 6 – 12 | 3 – 8 | 2 – 7 | 2 – 8 | 8 | |
| 7 | 6 – 12 | 4 – 10 | 3 – 9 | 3 – 8 | 8 | |
| 8 | 6 – 12 | 5 – 13 | 4 – 11 | 3 – 10 | 8 | |
| 9 | 6 – 12 | 6 – 15 | 5 – 11 | 4 – 10 | 8 | |
| 10 | 9 – 12 | 7 – 20 | 5 – 15 | 4 – 10 | 8 | |
| 11 | 9 – 12 | 8 – 20 | 6 – 17 | 6 – 13 | 8 | |
| 12 | 9 – 12 | 10 – 20 | 7 – 20 | 10 – 15 | 8 | |
| 13 | 9 – 12 | 12 – 25 | 8 – 22 | 12 – 17 | 8 | |
| 14 | 9 – 12 | 14 – 30 | 9 – 25 | 15 – 20 | 8 | |
| 15 | 9 – 12 | 16 – 35 | 10 – 27 | 15 – 20 | 8 | |
| 16 | 9 – 12 | 18 – 35 | 12 – 30 | 15 – 20 | 8 | |
| 17 | 9 – 12 | 18 – 35 | 14 – 30 | 15 – 20 | 8 | |
| 17+ | 9 – 12 | 18 – 35 | 14 – 30 | 15 – 20 | 8 | |

*Number on the left is lower end of the HFZ; number on right is the upper end of the HFZ.

**Aerobic capacity (VO₂max) reflects the maximum rate that oxygen can be taken up and utilized by the body during exercise. Aerobic capacity is estimated by inserting age, gender, weight, mile walk time, and heart rate at the end of the walk into the Rockport Fitness Walking Test equation.

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